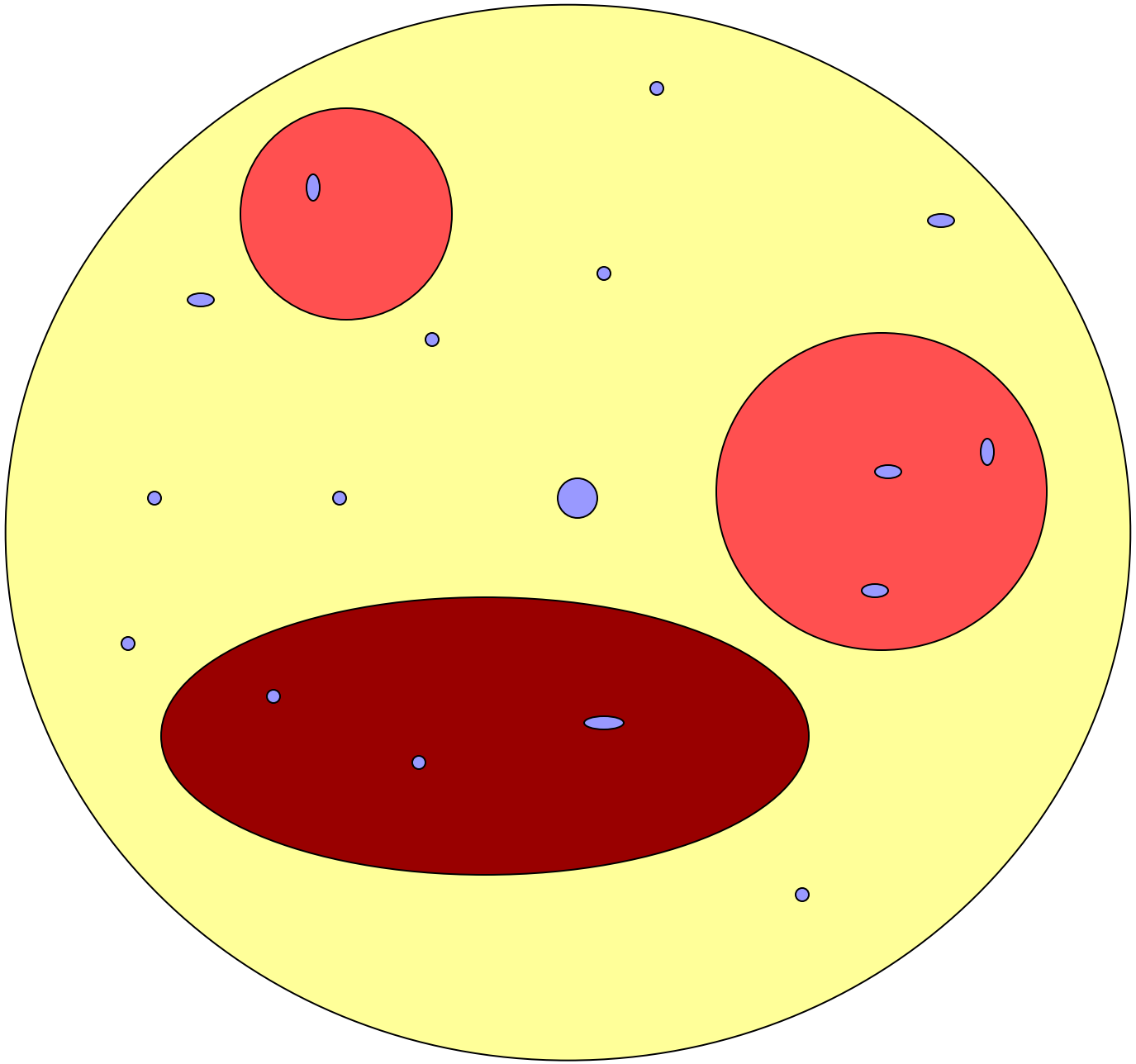
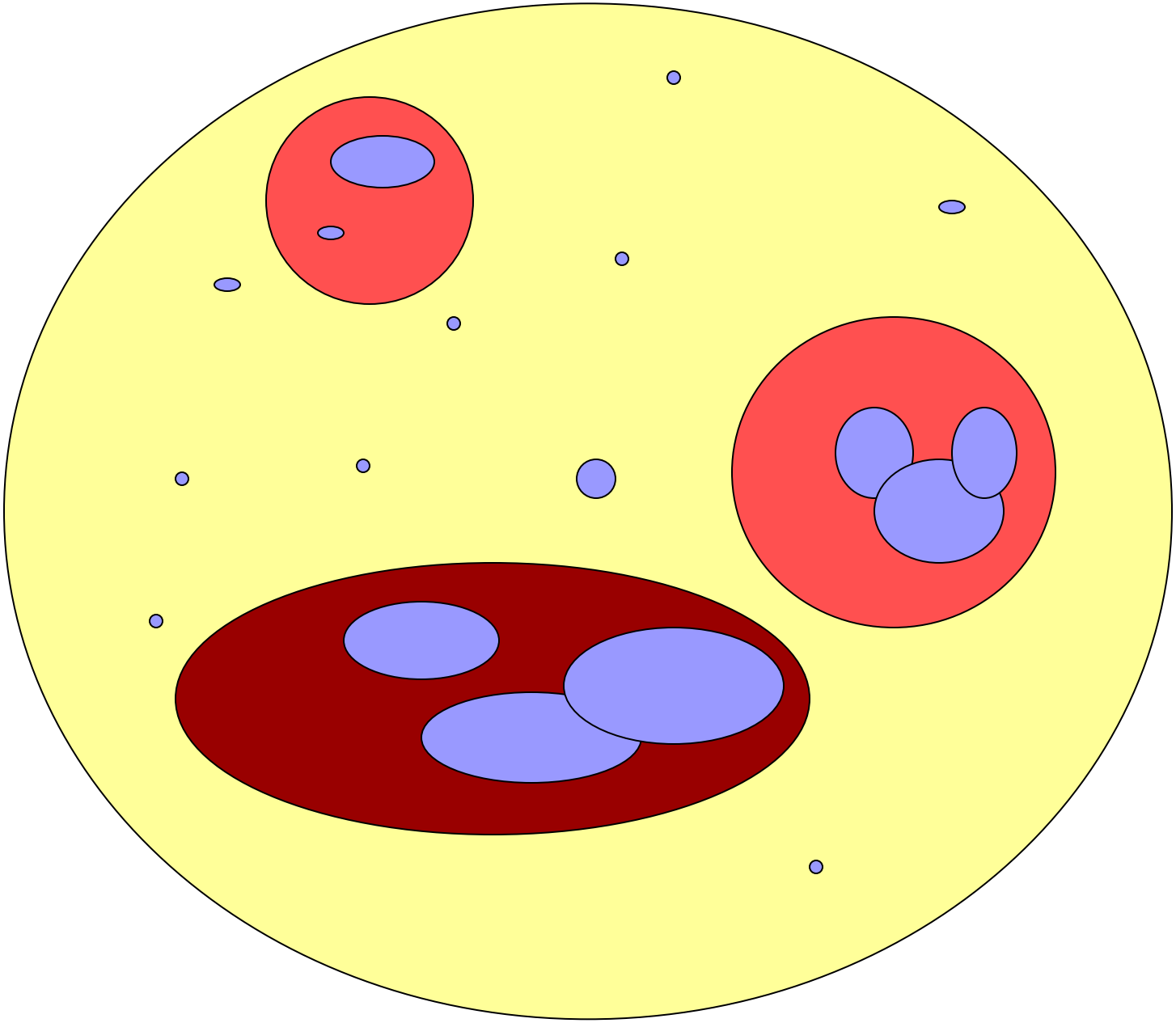
Inter-Disciplinary Research: To Be or Not to Be?

Interdisciplinary Research Centers Workshop
National Institutes of Health
Lister Hill Auditorium
February 9-10, 2006





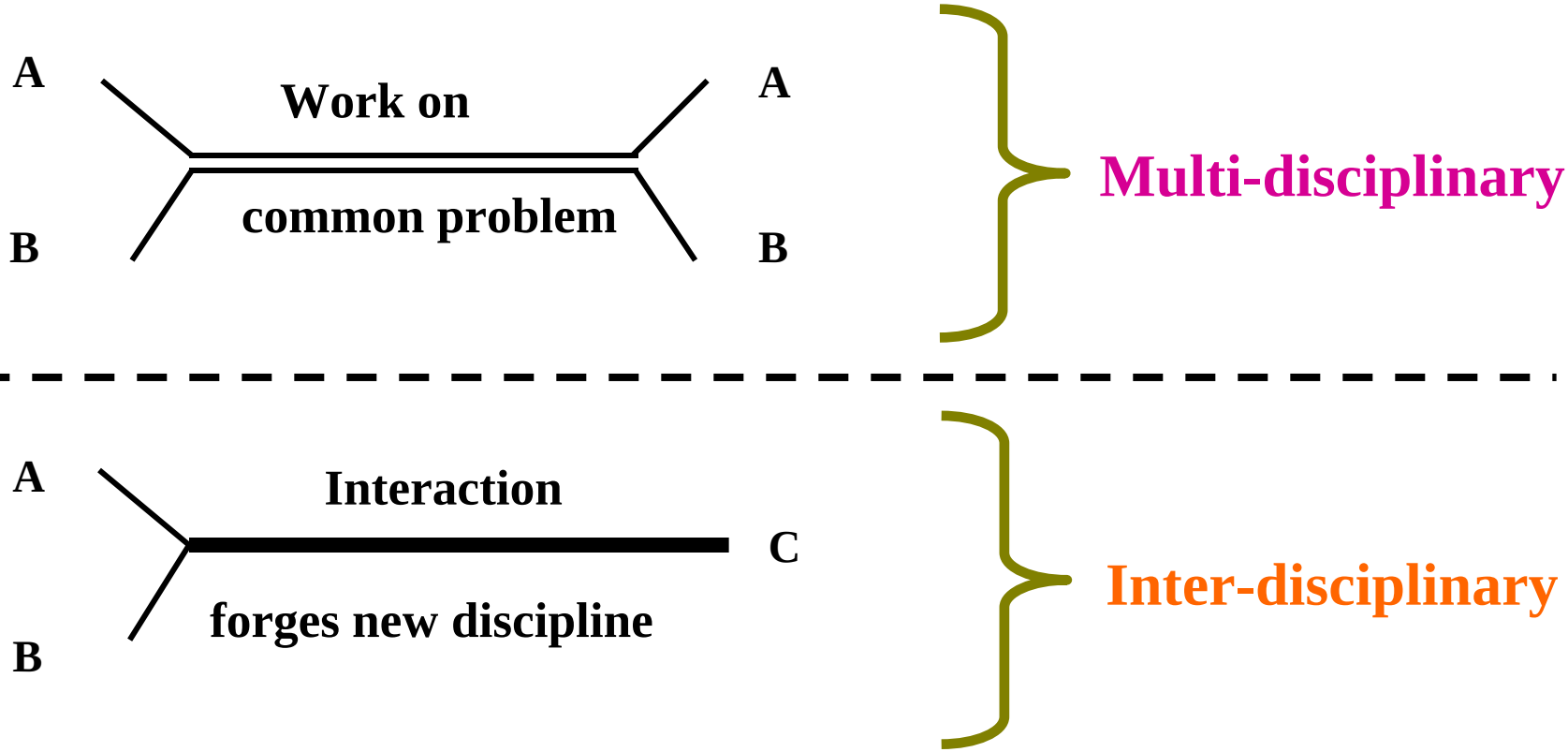
NIH Roadmap

New Pathways to Discovery

Research Teams of the Future

Re-engineering the Clinical Research Enterprise

Multi-disciplinary Research is NOT the same as Inter-disciplinary Research



Everyone's a Critic . . .

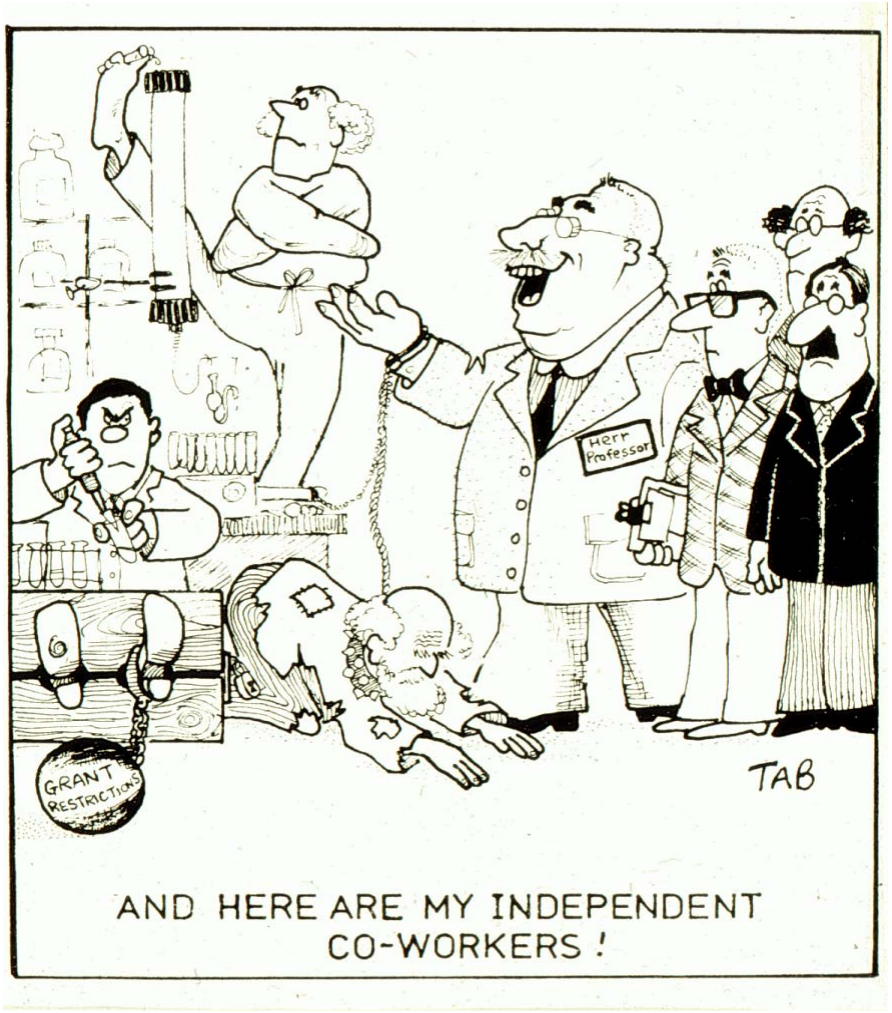
"I'm on the verge of a major breakthrough, but I'm also at that point where chemistry leaves off and physics begins, so I'll have to drop the whole thing."

Everyone's a Critic . . .

"People who gravitate to the unexplored frontiers tend to be self-selected as people who don't like disciplines-or discipline, for that matter."

Eddy, S. (2005) "Antedisciplinary" science. *PLoS Computational Biology* **1**:DOI:10.1371/journal.pcbi.0010006

Challenges of Interdisciplinary Research



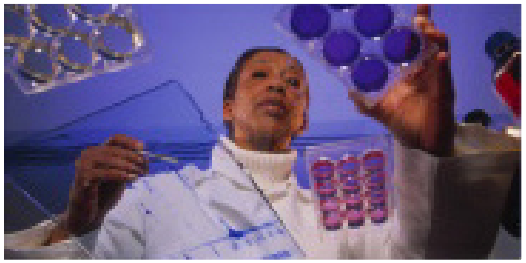
- The current system of academic advancement favors the independent investigator
- Most institutions house scientists in discrete departments
- Interdisciplinary science requires interdisciplinary peer-review
- Project management and oversight is currently performed by discrete ICs
- Interdisciplinary research teams take time to assemble and require unique resources

Anti-Microbial Resistance

- Elaine L. Larson of Columbia University
- Center for Interdisciplinary Research on Antimicrobial Resistance (CIRAR)
- Goal: to implement & evaluate a long-term collaborative program of interdisciplinary research on reducing antimicrobial resistance.
- Research techniques: risk communication, economics, biostatistics, epidemiology, behavioral sciences, education, & health services.
- Larson, EL et al., (2005) *Am J Infect Control* **33**: 410-418.

Vaccine Development

- David S. Stephens of Emory University
- Exploratory Center for Vaccinology Research
- Goal: to solve the significant and complex problems in vaccine development, safety and adverse events, production and supply, acceptance and use.
- Research techniques: genetics, bioinformatics, behavioral sciences, economics, engineering and population biology.
- Orenstein, WA et al., (2005) *Health Affairs* **24**: 599-610.



NIH

Ideas
People
Resources
Leadership